

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the claims

1. (Currently Amended) ~~Method~~ A method of obtaining protective coatings on ~~the~~ a surface of chemically active materials comprising a mixture of a chemically active metal and a fusible stable element comprising the steps of:

[[-]] providing at least one chemically active metal A;

[[-]] providing at least one fusible stable element B;

[[-]] mixing metal A and element B to form a mixture;

[[-]] treating said mixture at its surface with a liquid agent L, ~~which~~ wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B[[,]] at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

[[-]] ceasing treatment when ~~the~~ a desired thickness of the coating ~~has been~~ is achieved;

[[-]] removing the liquid agent ~~and~~;

[[-]] cleaning the mixture; and

drying the mixture.

2. (Currently Amended) ~~Method~~ The method according to claim 1, ~~characterized in that~~ wherein metal A is selected from the group consisting of alkali, alkali-earth, rare-earth metals ~~and/or~~ and actinoids.

3. (Currently Amended) ~~Method~~ The method according to claim 2, ~~characterized in that~~ wherein metal A is selected from the group consisting of lithium, sodium, potassium, rubidium, cesium, magnesium, calcium, strontium, barium, radium, lanthanum, praseodymium, erbium, europium, ytterbium, uranium, plutonium and thallium.
4. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein element B is selected from the group consisting of the elements in group III, IV, V ~~and/or~~ and VI of the Periodic System and their binary and ternary combinations with each other.
5. (Currently Amended) ~~Method~~ The method according to claim 4, ~~characterized in that~~ wherein element B is selected from the group consisting of gallium, indium ~~and/or~~ , tin and their binary and ternary combinations with each other.
6. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the liquid agent L is selected from the group consisting of (a) ~~substances the~~ a substance having boiling point ~~[[of]]~~ which is higher and ~~[[the]]~~ a melting point ~~[[of]]~~ which is lower than the melting point of element B, (b) mixtures of substances according to (a) and (c) solutions of substances according to (a) or their mixtures (b) in solvents which are neutral to both metal A and element B.
7. (Currently Amended) ~~Method~~ The method according to claim 6, ~~characterized in that~~ wherein the liquid agent L is selected from the group consisting of CH-acids, aliphatic alcohols, polyhydric alcohols, higher carboxylic acids, condensed arenes polyethers, macrocyclic polyethers ~~[[and]]~~ mixtures thereof, ~~and/or~~ and solutions thereof.

8. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein ceasing treatment is accomplished by decreasing the temperature below the melting point of element B.

9. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the thickness of the coating is 1 μm or more, preferably 10 μm or more greater.

10. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, wherein the thickness of the coating is being controlled by ~~[[the]]~~ adjustment of ~~[[the]]~~ duration and/or ~~[[the]]~~ temperature of the treatment with liquid agent L.

11. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized by~~ claim 1, wherein the treatment comprises immersing the mixture of metal A and element B in liquid agent L.

12. (Currently Amended) ~~Method~~ The method according to ~~any one of the preceding claims, characterized in that~~ claim 1, further comprising forming the mixture of metal A and element B into a desired shape before treatment with liquid agent L.

13. (Currently Amended) ~~Method~~ The method according to claim 12, ~~characterized in that~~ wherein the mixture of metal A and element B is formed in essentially spherical shape ~~before treatment with liquid agent L~~.

14. (Currently Amended) ~~Method~~ The method according to claim 12, ~~characterized in that~~ wherein the mixture of metal A and element B is formed in cylindrical form or in form of a plate ~~before treatment with liquid agent L~~.

15. (Currently Amended) ~~Method~~ The method according to claim 13,
~~characterized in that~~ wherein the spherically formed mixture is dropped into a bath of liquid
agent L.
16. (Currently Amended) ~~Chemically~~ A chemically active material with a
protective coating on its surface obtained ~~obtainable~~ by the method of any one of claims 1 to 15.
17. (Cancelled)
18. (New) The method according to claim 1, wherein the thickness of the
coating is 10 μ m or greater.
19. (New) A method of manufacturing photoemissive devices and organic
light emission diodes comprising using a chemically active material as a vapor source, wherein
the chemically active material with a protective coating on its surface comprises a mixture of a
chemically active metal and a fusible stable element and is produced by a method comprising the
steps of:
- providing at least one chemically active metal A;
 - providing at least one fusible stable element B;
 - mixing metal A and element B to form a mixture;
 - treating said mixture at its surface with a liquid agent L, wherein liquid agent L is
capable of dissolving metal A but not capable of dissolving element B at a temperature which is
higher than the melting point of element B thereby creating a coating consisting essentially of
element B at the surface of said mixture;
 - ceasing treatment when a desired thickness of the coating is achieved;
 - removing the liquid agent;
 - cleaning the mixture; and

drying the mixture.

20. (New) A method of manufacturing gas filters and vacuum sealed-off devices comprising using a chemically active material as chemisorbent including evaporable and non-evaporable getters, wherein the chemically active material with a protective coating on its surface comprises a mixture of a chemically active metal and a fusible stable element and is produced by a method comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.

21. (New) A method of manufacturing special alloys, sublimation pumps or particle accelerators using a chemically active material as a source of active metals in chemical synthesis in the form of a catalyzer or in the form of a constituent of the produced product, wherein the chemically active material with a protective coating on its surface comprises a mixture of a chemically active metal and a fusible stable element and is produced by a method comprising the steps of:

providing at least one chemically active metal A;

providing at least one fusible stable element B;

mixing metal A and element B to form a mixture;

treating said mixture at its surface with a liquid agent L, wherein liquid agent L is capable of dissolving metal A but not capable of dissolving element B at a temperature which is higher than the melting point of element B thereby creating a coating consisting essentially of element B at the surface of said mixture;

ceasing treatment when a desired thickness of the coating is achieved;

removing the liquid agent;

cleaning the mixture; and

drying the mixture.